

# Response-To-Intervention (RTI) As a Method of LD Identification:

## Four Case Studies

Drs. Doug and Lynn Fuchs, May 2005

### Background Information

To illustrate different decisions within an RTI method of LD identification, we present four case studies. The case studies are set in a “Tennessee Elementary” school at first grade in the area of reading. Before presenting these case studies, we briefly describe the measure, the Tier 1 instructional context, and the nature of the Tier 2 diagnostic instructional trial used in this school's RTI identification process. (These measures and instructional methods are only illustrative; others are tenable.)

**Measure.** For screening and for designating responsiveness at Tiers 1 and 2, “Tennessee Elementary” uses curriculum-based measurement word identification fluency (CBM-WIF). With CBM-WIF, students read a list of words for 1 minute. Performance is number of words read correctly, and each alternate form randomly samples 50 words from a pool of 100 high-frequency pre-primer, primer, and first-grade words. If a student completes reading before 1 minute, the score is prorated to reflect words read per minute.

Alternate-form reliability/stability for CBM-WIF is .97. Validity for CBM-WIF performance level is also strong. For concurrent validity, correlations with the Woodcock Reading Mastery Tests Word Identification subtest are .77 in the fall and .82 in the spring; the correlation with CBM passage reading fluency is .93 in the spring; and the correlation with the Comprehension Reading Assessment Battery Comprehension score is .73 in the spring. For predictive validity, correlations from fall to spring on the same criterion measures range between .63 and .80.

CBM-WIF slope (i.e., weekly improvement based on a least-squares regression between calendar days and scores) has also been shown to be valid. Correlations between CBM-WIF slope and end-of-year first-grade Woodcock Reading Mastery Test Word Identification is .70; with end-of-year CBM passage reading fluency, .85; and with end-of-year Comprehension Reading Assessment Battery – Comprehension, .66.

For **screening**, “Tennessee Elementary” assesses all students in September of first grade on two alternate forms of CBM-WIF, averaging performance across the two forms. At the beginning of grade 1, “Tennessee Elementary” uses a CBM-WIF **cut-score of 15 for designating risk** for reading failure by the end of first grade (i.e., any student scoring lower than 15 on CBM-WIF is deemed likely to experience serious reading difficulty unless the student receives intervention).

For **monitoring response to instruction** of at-risk students in **Tier 1** instruction, “Tennessee Elementary” measures at-risk students once each week on a different form of CBM-WIF. For monitoring response to instruction of students who prove unresponsive to Tier 1 and who therefore enter **Tier 2** diagnostic instructional trial, “Tennessee Elementary” measures at-risk students twice each week on a different form of CBM-WIF. At **both tiers**, scores are graphed, and slopes are calculated at decision points. Research indicates that typically-developing first graders improve approximately 1.75 words per week on CBM-WIF. Based on a normative framework for at-risk students who respond positively to instruction, “Tennessee Elementary” uses a CBM-WIF **slope of 1 word increase per week to designate positive response** to intervention.

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### **Four Case Studies**

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**Tier 1 instruction.** Tier 1 instruction at “Tennessee Elementary” can be described as “generally effective” for three reasons. First, every first-grade teacher uses a validated reading curriculum, Open Court. Second, “Tennessee Elementary” school’s lead reading teacher observes each first-grade teacher’s implementation of Open Court quarterly and has documented that the program is implemented with strong fidelity. The third form of evidence for the efficacy of “Tennessee Elementary” school’s first-grade Tier 1 reading program instruction is derived from the teachers’ track records. That is, the previous year’s first-grade cohort, on average, demonstrated a strong slope on CBM-WIF improved an average of 1.8 words per week. This figure is commensurate with the weekly rate of improvement for typically-developing students in first grade (1.75 words per week increase). Moreover, during the previous year, only 3 of 60 (i.e., 5%) first graders failed to achieve the end-of-year CBM-WIF benchmark of 60 words read correctly in 1 minute.

**Tier 2 diagnostic instructional trial.** “Tennessee Elementary” school’s Tier 2 instructional diagnostic trial is modeled after a validated tutoring reading protocol at first grade. Students receive 45 minutes of instruction four times each week in groups of 1-3 students. The tutors are paraprofessionals who have completed training and are observed once each week by the lead reading teacher, who provides corrective feedback. Also, once each week, the lead reading teacher meets with all tutors for 1 hour to examine students’ CBM-WIF graphs and to problem solve about students whose progress is inadequate. The tutoring sessions focus on phonological awareness, letter-sound recognition, decoding, sight word recognition, and short-story reading, with highly explicit instruction. Self-regulated learning strategies are also incorporated to increase motivation and goal-directed learning.

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Four Case Studies

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### **Case Study A: Student Screened as Not At Risk (Not LD)**

On the September CBM-WIF screening, Student A's average score across the two alternate forms was 22.5. This score exceeded the cut-point for designating reading-failure risk. So, Student A was deemed not at risk.

### **Case Study B: Student Screened as At Risk, But Deemed Responsive to Tier 1 (Not LD)**

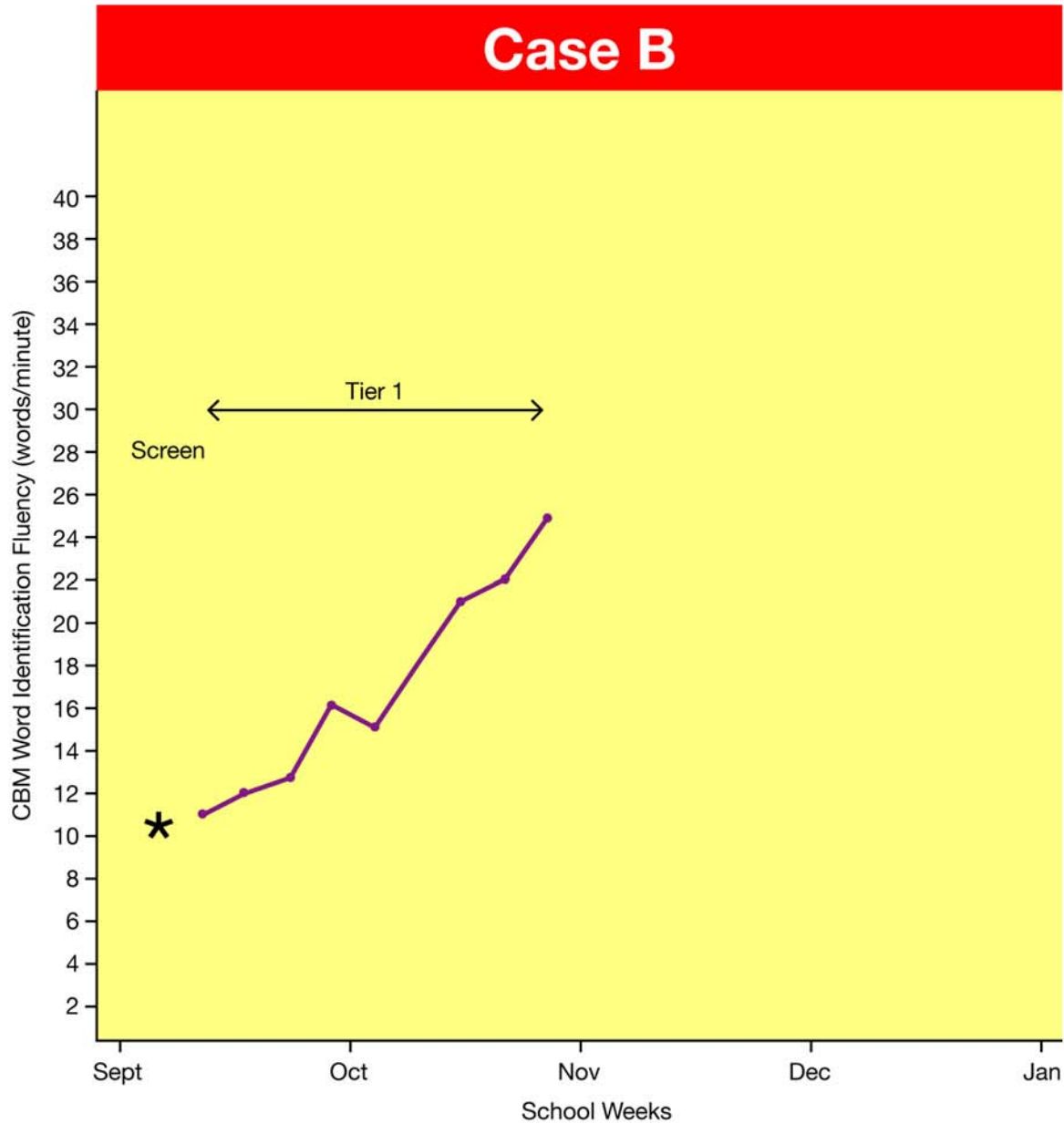
On the September CBM-WIF screening, Student B's average score across the two alternate forms was 10.5. This score fell below the cut-point for designating reading-failure risk. So, Student B was deemed at risk; therefore, Student B's performance was monitored for 8 weeks under Tier 1 instruction, with one CBM-WIF assessment conducted each week. At the end of 8 weeks, Student B's CBM-WIF slope (i.e., weekly increase) was 1.8, which exceeded the 1.0 criterion for positive response. So, Student B was deemed responsive to Tier 1 instruction. Student B's graph and decision tree are shown below.

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### Case B



Student Does Not Have a Disability

#### Step 1: Screening

Is this student at risk?

Word Identification Fluency = 10.5

No

Yes

#### Step 2: Assessing Tier 1 Response

Is this student responsive to general education?

Word Identification Fluency Slope = 1.8

Yes

No

#### Step 3: Assessing Tier 2 Response

Is this student responsive to diagnostic instructional trial?

Word Identification Fluency = NA

Yes

No

#### Step 4: Disability Classification/ Special Education Placement

What is the student's disability label?

LD

MR

EBD

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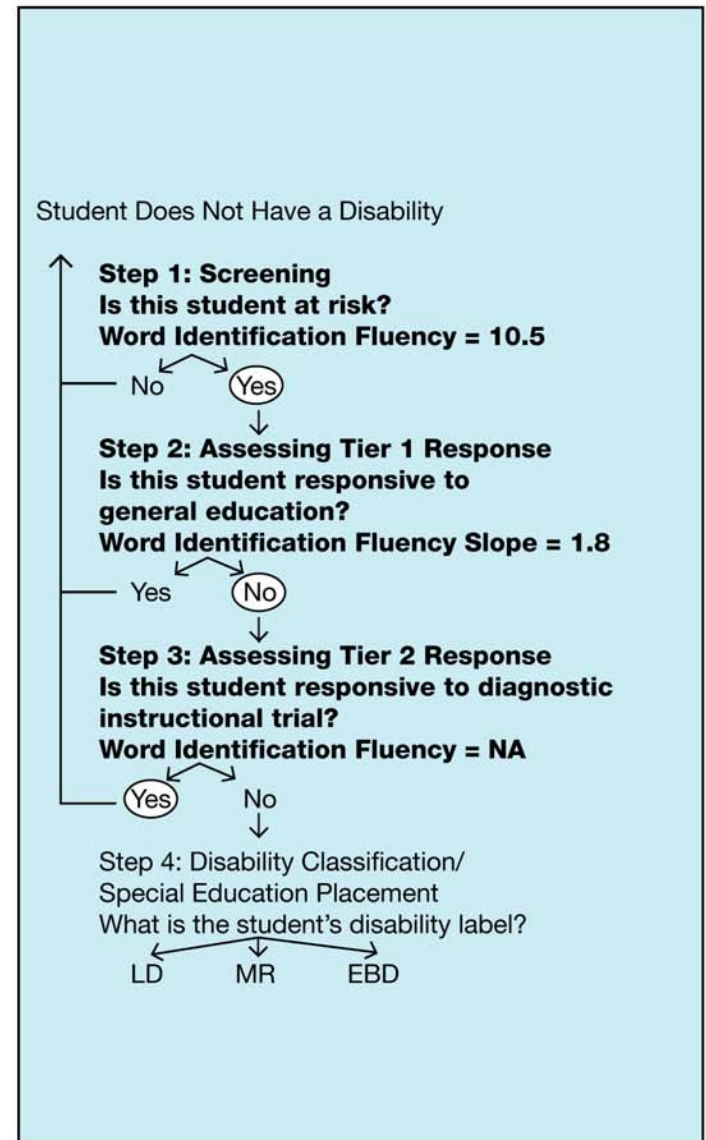
Four Case Studies

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### **Case Study C: Student Screened as At Risk, Deemed Unresponsive to Tier 1, But Responsive to Tier 2 (Not LD)**

On the September CBM-WIF screening, Student C's average score across the two alternate forms was 5.5. This score fell below the cut-point for designating reading-failure risk. So, Student C was deemed at risk; therefore, Student C's performance was monitored for 8 weeks under Tier 1 instruction, with one CBM-WIF assessment conducted each week. At the end of 8 weeks, Student C's CBM-WIF slope (i.e., weekly increase) was 0.4, which fell below the 1.0 criterion for positive response. So, Student C was deemed unresponsive to Tier 1 instruction, and entered A Tier 2 diagnostic instructional trial, again with weekly CBM-WIF monitoring. This trial was explained to parents in a face-to-face meeting, and written parental consent for the trial to proceed was obtained. Under Tier 2, Student C's slope increased to 1.7, which exceeded the 1.0 criterion for positive response. So, Student C was deemed responsive to Tier 2 instruction. Student C's graph and decision tree are shown below.

Four Case Studies  
Drs. Doug and Lynn Fuchs, May 2005



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Four Case Studies

Drs. Doug and Lynn Fuchs, May 2005

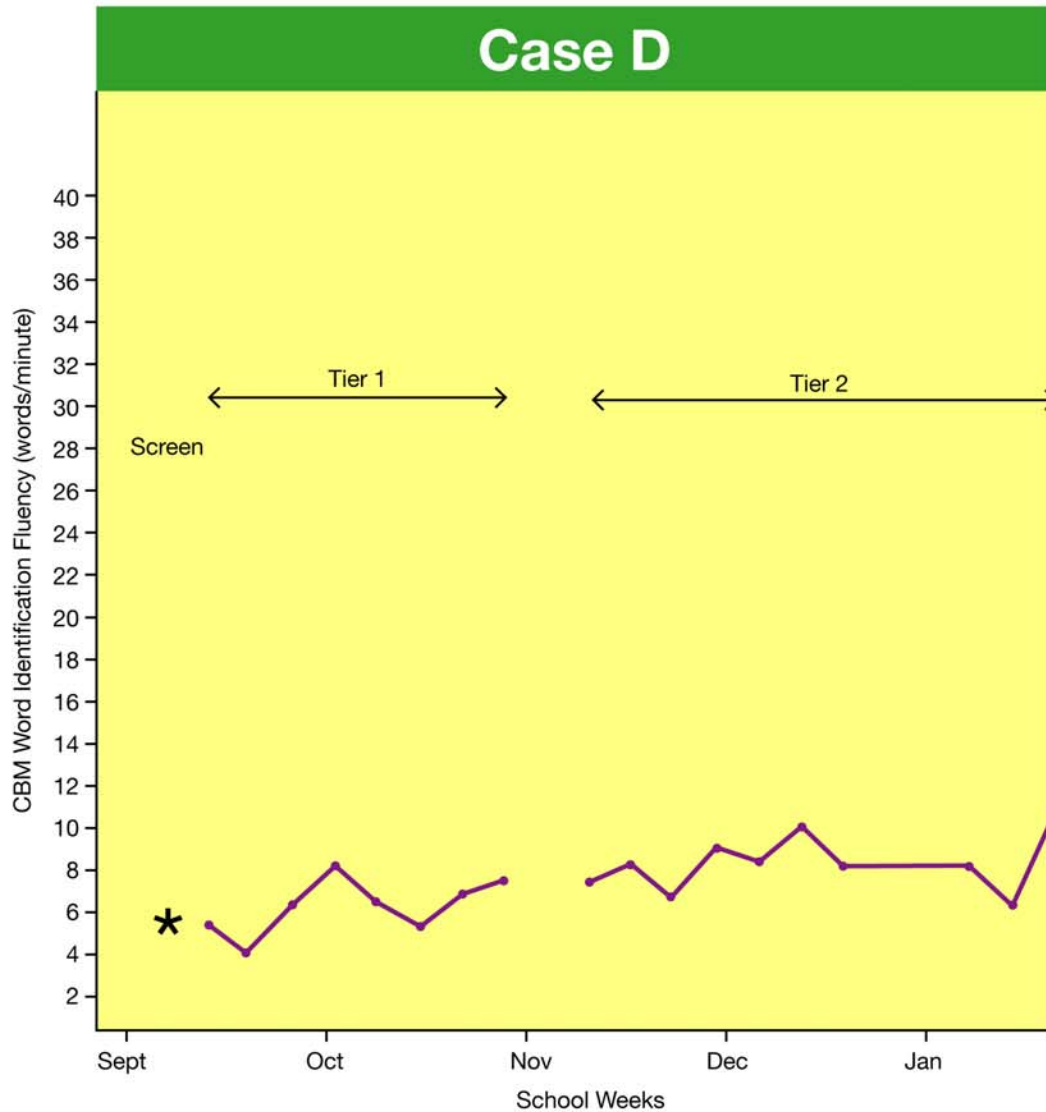
### **Case Study D: Student Screened as At Risk, Deemed Unresponsive to Tier 1, Deemed Unresponsive to Tier 2 (LD)**

On the September CBM-WIF screening, Student D's average score across the two alternate forms was 5.5, which fell below the cut-point for designating reading-failure risk. So, Student D was deemed at risk; therefore, Student D's performance was monitored for 8 weeks under Tier 1 instruction, with one CBM-WIF assessment conducted each week. At the end of 8 weeks, Student D's CBM-WIF slope (i.e., weekly increase) was 0.2, which fell below the 1.0 criterion for positive response. So, Student D was deemed unresponsive to Tier 1 instruction, and entered a Tier 2 diagnostic instructional trial, again with weekly CBM-WIF monitoring. This trial was explained to parents in a face-to-face meeting, and written parental consent for the trial to proceed was obtained. Under Tier 2, Student D's slope was 0.5, well below the 1.0 criterion for positive response. So, Student D was deemed unresponsive to Tier 2 instruction. Consequently, Student D was deemed as having a disability and entered the Step 4 evaluation. Written parental consent was obtained. The 2-subtest Wechsler Abbreviated Scale of Intelligence ruled out mental retardation, and brief rating scales eliminated the possibility of an emotional behavioral disorder. So, Student D was classified as LD. Student D's graph and decision tree are shown below.

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Student Does Not Have a Disability

